

## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <a href="http://about.jstor.org/participate-jstor/individuals/early-journal-content">http://about.jstor.org/participate-jstor/individuals/early-journal-content</a>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

## GENERAL INDEX.

The most important classified entries will be found under Contributors, Diseases, Hosts, Necrology, Personals, and Reviews. Names of new species are printed in **bold-face type**; synonyms in *Italics*.

#### Α

A. A. A. S. Botanical Club 141; Section G 139, 143 Abies, balsamea, affected with Æcidium elatinum 191; comparative anatomy of normal and diseased organs 309; firma 310; pectinata 310, 321, 322, stomata on bud scales of 191, 294 Abutilon 31 Acacia Tequilina 35. Acanthaceæ, Lindau on 138 Acer dasycarpum 142 Acerolla 391 Æcidium, Bouvardiæ 36; Cissi 36; elatinum 191; elatinum on Abies 309; Mexicanum 36; mirabilis 37; Montanoæ 36; roseum 36 Ægopogon cenchroides 26 Agave 37 Ageratum 31 Agricultural botany, French publications Agricultural Science, Society for Promotion of 387 Agriculture, appropriations for Department of 450 Alabama, biological survey 450 Algæ, Chodat on 138; fixing and preserving 373; in hot springs, Davis on 133; lactophenol for restoring 300; stalactite forming 194 Aligera, Suksdorf on 136 Alkaloids, Lotsy on localization of in cinchonas 300 Allium 33 Alopecurus alpinus 421 Alternanthera pungens 434 Amann, J., work of 300 Amblystegium, N. Am. species of 236; adnatum 254, 255; ambiguum 285; compactum 262; confervoides 249; curvipes 242, 285; dissitifolium 241; distantifolium 241; fallax 271; fenestratum 241; filicinum fallax 271;

Floridanum 283; fluviatile 237, 275; fluviatile *irriguum* 268; fluviatile irriguum spinifolium 271; Holzingeri 241; homalostegium 241; hygrophilum 242; irriguum 237, 268; irriguum fallax 271; irriguum spinifolium 271; irriguum spinifolium 271; Juratzkae 260; Juratzkanum 260; Kochii 285; Lescurii 278; minutissimum 245; noterophilum 237, 272; orthocladon 242, 266; porphyrrhizum 242, 266; radicale 242, 265; riparium 280; riparium abbreviatum 283; riparium flaccidum 283; riparium Floridanum 283; riparium fluitans 284; riparium Kochii 285; riparium longifolium 284; Schlotthaueri 241; serpens 257, 258; serpens 269; serpens irriguum irriguum noterophilum 272; serpens Juratzkanum 260; serpens orthocladon 266; serpens radicale 266; serpens Schlottaueri 257; serratum 262: speirophyllum subtile 251; 252; Sprucei 247; subcompactum 241; trichopodium Kochii 285; vacillans 287; Vallis clausæ spinifolium 271; varium 265; varium Lesquereuxii 266 American Naturalist 306 Amphilophium 30 Amygdalin, localization of 55 Anderson, A. P., 294, 309; work of 143, Andromeda speciosa pulverulenta 375 Andropogon melanocarpus 28 Angiosperms, phylogeny and taxonomy of 145 Anoda 31 Anona Pittieri 389 Antennaria, Fernald on 137 Anthanotis, Greene on 445 Anthemis mixta 435 Antherozoids, Belajeff on development of 302; of Zamia, development 16 Anthracnose of cucumbers 66 Antipodal cells 181

Apple scab 67, 68; Chester on 65 Apocynum androsæmifolium 33; Greene on 445 Arabis hirsuta 299

Araceæ, acridity of 191 Arafallus, Greene on 445 Ardisia auriculata 399

Ardisia auriculata 395; stenophylla

395 Arisæma Dracontium 24 Aristida dispersa 28 Arizona, Toumey on weeds of 298; weeds of 68 Arthur, J. C., 62, 63, 64, 65, 66, 67, (218, 296, 297, 299, 301, 379, 381, 383, 447, 448; personal 140, 179; work of 67,

Asa Gray Bulletin 306 Asarum, Ashe on 445 Asclepiadaceæ, Vail on 136 Asclepias Cornuti, development of pollen 180

181

Ashe, W. W., 373; work of 445 Asparagus rust, Sturgis on 66 Atkinson, G. F., personal 143, 187; "Studies and illustrations of mush-

rooms" 448 Atamosco, Greene on 137 Atropis vilfoidea 422 Australia, forests of western 63 Auxanometer, new 297

В

B. A. A. S. 143; botanists at 140 Baccharis cœrulescens 30 Bacillus hyacinthi septici 188; phaseoli 192; solanacearum 193 Bacteria, Fisher on 131; pigments 192; Ewart on evolution of oxygen by 446 Bacterial disease of strawberry 66 Bacteriosis of carnations 188, 200 Bacterium hyacinthi 188 Baffin's Land, plants of 418 Baileya multiradiata and insects 105 Bailey, L. H., "Principles of fruit growing" 123 Bailey, W. W. 292; "New England Wild Flowers " 128 Baker, E. G., work of 137; Colorado plants 449 Balance, new registering 143, 191 Banisteria cordifolia discolor 391 Basidiobolus, cytology 218 Barnes, C. R. 60, 61, 62, 64, 66, 67, 133,

300, 301, 382, 439, 441, 445; personal

140, 179 Bastin, E. S. 139; and Trimble's "N.

Am. Coniferæ" 440

Beach, S. A., work of 67
Beal, W. J., personal 141; work of 143
191
Belajeff, W., personal 449; work of 302
Bennett, A. W. 305
Berteroa incana 141

Berthold, G., work of 384
Bescherelle, E., work of 133

Bessey, C. E. 145; personal 141, 143, 181;

work of 143, 188, 189 Bibliography, difficulties of 183 Bidens 32

Birch, oil from tar 449 Blackberry rust, Stone on 66

Blatchley's "Plants of Vigo County, Ind."
128; "Phanerogams new or rare in

Indiana" 443 Blepharoplast 233 Bletia *verecunda* 433 Blight, Chester on peach 65

Bolley, H. L., work of 68 Botanical Club 139

Botanical Society, of America 140, 143, 145, 179; of W. Pennsylvania 306

Bouteloua racemosa 28 Bouvardia 31; triphylla 36 Branching, prize memoir on 72 Brannon, M. A., work of 130 Bray, W. L., personal 224 Bread, ancient Egyptian 301

Britchellia 34
Britton, Ms. N. L., personal 141
Britton, N. L., personal 140, 179; &
Brown's "Illustrated flora of U. S."

Bromus 28
Brongniartia 35; podalymoides 36
Brown, J. E., work of 63
Brunnthaler's "Exchange list" 61
Buceragenia, Greenman on 136
Budd, J. L. 122

Buds, disguises in arrangement 427; of hickory 262; normal and diseased 320; scales, stomata on 294

Bulgaria **Mexicana** 37; spongiosa 38 Burmannia, Malme on 221

Burmeisteria cyclostigmata Suerrensis

Burt, Edward A., 73 Byssus bombycina 56; floccosa 56

C

Calochortus flava 31 Camassia, Coville on 136 Campbell, D. H. 140, 185 Canada, Fletcher on weeds of 299 Capparis discolor 389

Cardamine bellidifolia sinuata 424 Carbohydrates, summary of progress in chemistry 301 Card, F. W., work of 68 Cardiospermum Halicacabum 31 Cardot's "Mosses of the Azores" 61 Carex sp? 419 Carlowrightia Pringlei 138 Carnations, bacteriosis of 188, 200 Carpels of Typha, development of 93 Carva, inflorescence 431; vernation 292 Caryophyllales, transition region of 182 Catabrosa vilfoidea 422 Cedar, waste from pencil factories 449 Cellulose, ferment 190; Griiss on reserve Celtis, Small on 445 Cenchrus multiflorus 28 Central America, undescribed plants of Centrosomes 217; body like 21 Cerastium lanatum 424 Cereals, prize for memoir on 72 Cercospora Nicotianae, Sturgis on 66 Chamberlain, C. J., 131, 221 Chapman's "Flora of Southern U. S." 123 Characeæ, spermatogenesis in 303 Chara, cytology 217 Charts, Kny's 449; Kohl's 451 Cheney, L. S. 236 Cherry leaf spot 68 Chester, F. D., work of 65, 68 Chicago University, Hull Botanical Laboratory 140 Chipman's "Flora of lake region of N.E. Indiana" 442 Chlorophyll, preserving color of 206 Chmilewskij, work of 67 Chodat, work of 138, 300 Chromosomes, 217, 221; reduction of 385 Chrysanthemum rust, Stone on 66 Chrysapsis, Greene on 445 Chrysopsis graminifolia latifolia 434 Cicuta vagans, Hedrick on 298 Cissus 36 Claassen's "List of Uredineæ of N. Ohio" Cladosporium carpophilum, Sturgis on winter condition 66; fulvum, Stone on Cladothamnus, Sargent on 137 Clematis ligusticifolia, abnormal flowers Clements, F. E. 141; work of 182 Clinton, G. P., work of 68 Clothier, G. L., work of 297 Cockerell, T. D. A. 104, 293, 378; "Food plants of scale insects" 220

**Viguieræ** 34 Colletotrichum Lagenarium 66 Colorado plants, Baker's 449 Compositæ, Greene on 136 Conringia hirsuta 299; orientalis 141 Contributors: Arthur, J. C. 62, 63, 64, 65, 67, 128, 296, 297, 299, 301, 379, 381, 383, 447, 448; Anderson, A. P. 294, 309; Ashe, W. W. 373; Bailey, W. W. 292; Barnes, C. R. 60, 61, 62, 64, 66, 67, 133, 300, 301, 382, 439, 441, 445; Bessey, C. E. 145; Budd, J. L. 122; Burt, Edward A. 73; Chamberlain, C. J. 131, 221; Cheney, L. S. 236; Cockerell, T. D. A. 104, 293, 378; Copeland, E. B. 399; Coulter, J. M. 47, 120, 121, 122, 123, 124, 125, 126, 127, 128, 130, 132, 135, 216, 220, 296, 297, 440, 441, 445, 448; Coulter, Stanley 215; Cowles, H. C. 68, 134, 298, 445, 446; Deane, W. 436; Dietel, P. 23; Earle, F. S. 58; Fawcett, Wm. 345; Fernald, M. L. 433; Harper, R. A. 384; Holway, E. W. D. 23; Holm, Theo. 224; Jordan, E. O. 379, 439; King, F. H. 118; Kozlowski, W. M. 39; Lutz, M. 110; Rozłowski, W. M. 39; Lutz, M. L. 54; McDougal, D. T. 110; Merrell, W. D. 383; Morgan, A. P. 56; Newcombe, F. C. 437; Peirce, G. J. 370; Robinson, B. L. 107, 209, 436; Rose, J. N. 47; Rowlee, W. W. 417; Russell, H. L. 442, 446; Schaffner, J. H. 202, Scheel, H. 202, Fackbart H. 93; Schrenk, H. von 52; Shaw, W. R. 114, 372; Shull, G. H. 427; Smith, John Donnell 389; Smith, R. E. 103; Smith, W. R. 385; Thaxter, R. 1, 129; Thom, Chas. 373; Tilden, Josephine E. 194; Uline, E. B. 63; Webber, H. J. 16, 225, 302; Wiegand, K. M. 49, 419; Woods, A. F. 200, 206 Convolvulaceæ, Hallier on 137 Combs, R., work of 142 Copeland, E. B. 399 Corbett, L. C., work of 297 Cornell, plants collected on Peary voyage by party 417 Coulter, J. M. 120, 121, 122, 123, 124, 125, 126, 127, 128, 130, 132, 135, 216, 220, 296, 297, 440, 441, 445, 448; (& Rose)

47; work of 181

work of 136

Coulter, Stanley 215; "Compositæ of Indiana" 443 Coville, F. V. 140, 142, 179; "Plants used by Klamath Indians" 126;

Cowles, H. C. 68, 134, 298, 445, 446

Coleosporium IpomϾ 34; Viburni 34

Cratægus Azarolus 55; oxyacantha 55 Crantzia 47; lineata 47; Schaffneriana 48 Croton flavens 189; Tiglium 188 Crusea 31 Cuban plants 142 Cucumbers, anthracnose of 66 Cummings, Clara E. 141 Cunningham's "Effects of drought" 444; "Revision of U. S. species of Plantago" 444 Cyanophyceæ, Fischer on 131 Cycas, antherozoids 20; circinalis 225; revoluta 226 Cydonia Japonica and vulgaris, amygdalin and emulsin in seeds 55 Cylindrosolenium, Lindau on 138 Cylindrosporium padi 141 Cynoglossum officinale 299 Cyperus 29 Cystopodium ecristatum 433; Woodfordii 433 Cytology 213, 216, 221, 384, 385 Czapek, F., work of 64

## $\mathbf{I}$

Dalea 27 Datura meteloides and insects 105 Davenport, C. B., work of 132 Davis, B. M. 143, 180; work of 133 Davis, C. A., work of 143, 187 Davis, J. J. 141; "Fungi of Wisconsin" 662, Dawson, J. 180 Deane, W. 436 Dean's "Dablia" 61 Debski, B., work of 217 DeCandolle, C., work of 131, 138 Dendrium buxifolium prostratum 377 Desmodium 24, 25 Detmer, W. 305 Diatoms, movement 39; Van Heurck's treatise 450; Whipple on growth 64 Dictyophora duplicata 75 Diels, L., work of 137 Dietel, P. 23; work of 137 Digitalis, inflorescence 432 Dipsacus, inflorescence 432 Diseases: Abies balsamea, comparative anatomy of normal and diseased organs 191, 309; anthracnose of cucumbers 66; apple scab, Chester on 65, 67, 68; blackberry rust, Stone on 66; bacterial disease of strawberry 66; bacteriosis of carnations 188, 200; cherry leaf spot 68; chrysanthemum rust, Stone on 66; hyacinth, bacterium 188; ædema in roots of Salix nigra 52; oranges, soft spot of 103;

peach winter killing prevented 447; plum leaf spot 68; potato blight 67; potato scab 66, 67, 68; prunes, Hedrick on fungous diseases of 298; smuts 68; sweet potato, soil rot 67; tobacco disease, Sturgis on 66; to-mato black rot, Stewart on 298; tomato mildew, Stone on 66. Distribution, see Geography Dodge's "Catalogue of fiber plants" 297 Douglas, Robert, death 71 Draba algida 420; alpina 420; crassifolia 424 Drosera, reproductive organs and embryology of 188 Duggar's "Bacterial disease of squashbug" 62; work of 447 Durand, E. J., work of 143, 187 Durand & Pittier's "Primitiae Florae Costaricensis" 127 Dusen, P., work of 135

orchard and garden diseases 68;

peach blight 65; peach rot 65, 68;

## $\mathbf{E}$

Earle, F. S. 58 Ebonizing tables 66 Echlastesis 181, 209 Echium vulgare 299 Ecology 191, 297, 298; flowers and insects 104; (geography) 134; papers Ectocarpus siliculosus, Oltmanns on 383 Edwinia, Heller on 445 Elytraria tridentata 31 Emulsin, localization 55 Encelia Mexicana 32 Engler, A. 140; work of 137; (and Prantl's) Natürl. Pflanzenfamilien Epicampes macroura 23 Epiphyllum, Schumann on 137 Equisetineæ, Belajeff on spermatogenesis Equisetum limosum 217 Eragrostis lugens 23; Ogden on 137; Purshii 23 Eriogonum, Greene on 445 Erodium cicutarium, awns 372 Erysiphe communis 141; cytology 218 Erythræa stricta tereticaulis 398 Enzyme, cellulose 190 Eupatorium 36; Schaffneri 31 Euphorbia 31; glyptosperma 52; hirsuta 50, 52; humifusa 52; hypericifolia hirsuta 50; maculata 49, 50, 52; nutans 49, 51, 52

Euphorbiaceæ, Pax on 137 Evans, A. W. 141 Ewart, A. J., work of 446 Experimental farms, R. R. 307 Eysenhardtia orthocarpa 27

Fairchild, D. G., work of 218 Farlow, W. G. 139 Fawcett, Wm. 345; work of 185 Faxon, C. E. 139 Fecundation in Zamia 225 Fernald, M. L., work of 136, 137, 433; "Contrib. from Gray Herbarium" 441 Filicineæ, Belajeff on spermatogenesis Fischer, E. 71 Fischer, A., "Vorlesungen über Bakterien" 439; work of 131 Fischer, R., "Reagents and reactions" 62 Fisheria Martiana **funebris** 398 Fletcher, J., work of 299 Florida, plants, notes on 433 Flowers, abnormal 293 Flowers and insects of Mexico 104 Foods, Czapek on path of conduction 64 Forestiera Cartaginensis 396; porulosa 396; racemosa 396 Forests, geographical distribution 297, 298; of W. Australia 63 Formalin for potato scab 67 Foster, E. 224 Fothergilla Carolina 374; major 374; monticola 374 Fritsch's "Excursionsflora für Œsterreich" Fruits of weeds, Hitchcock & Clothier on 297 Fuchsia, transpiration of 112 Fucus, cytology 219 Fungi, Hennings on 137; of Kew gardens 306; Mexican 23; pigments of 192

## G

Galium, Wiegand on fruit characters of 143, 187, 220 Galphimia Humboldtiana 25 Gardens, botanical, at Indianapolis 143; of Jamaica 345 Gaylussacia, Small on 445 Geography, plant 68, 134, 141, 297, 298, 387, 418 Ginkgo, antherozoids 20; pollen tube apparatus 225 Glœocapsa violacea 194, 198

Glyceria vilfoidea 422 Golden's "Are yeasts pathogenic" 443 Gooringia, Williamson on 238 Grasses, Hillman on Nevada 298; Scribner on 136 Gray's "Synoptical Flora of N. Am." 121 Greene, E. L., "Flora Franciscana" 220 work of 136, 137, 183, 445 Greenland, plants of Peary voyage 421 Greenman, J. M., work of 136 Grinnellia Americana, Brannon on 130 Grout's "Isotheciaceæ and Brachythecia" Growth, correlation under injuries 191; Davenport on rôle of water in 132 Grüss, J., work of 300 Guatemala, undescribed plants of 389 Guilleminea 34 Gürke's "Plantæ Europaeæ" 122 Gyrothyra, Howe on 136

## Η

Hairs of Abies 342 Hallier, H., work of 137 Halorageæ, Parmentier on 130 Halsted, B. D., personal 387; work of 67 Harper, R. A. 384; work of 218 Hart, C. P., work of 191 Havard, V., personal 142 Hedrick, U. P., work of 298 Heller, A. A., work of 445 Hemerocallis, pollen of 217 Hennings, P., work of 137 Herbarium of Russow 308 Hessler's "Flora of lakes Cicott and Maxinkuckee " 442 Hicoria, bud structure 292; distribution 387; pallida 138 Hieracium aurantiacum 68, 299; Gronovii 435; Marianum spathulatum 435; megacephalon 435 Hierochloa borealis 299 Hillman, F. H., work of 298 Hitchcock, A. H. 140; work of 297 Hollick, A., personal 140, 179 Holway, E. W. D. 23 Holm, Theo. 224 Homostegia Parryi 37 Hopkins, A. D., work of 297 Hosts: Abies balsamea affected with Æcidium elatinum 191; Abutilon 31; Acacia Tequilina 35; Ægopogon

cenchroides 26; Agave 37; Ageratum 31; Allium 33; Amphilophium 30; Andropogon melanocarpus 28; Anoda 31; Apocynum androsæmifolium 33; Arisæma Dracontium 24; Aristida

Hosts:

dispersa 28; Baccharis coerulescens 30; Bidens 32; Bouteloua racemosa 28; Bouvardia 31; triphylla 36; Brickellia 34; Bromus 28; Brongniartia 35; B. podalymoides 36; Calochortus flava 31; Cardiospermum Halicacabum 31; Cenchrus multiflorus 28; Cissus 36; Crusea 31; Cyperus 29; Dalea 27; Desmodium 24, 25; Elytraria tridentata 31; Encelia Mexicana 32; Epicampes macroura 23; Eragrostis lugens 23; E. Purshii 23; Eupatorium 36; E. Schaffneri 31; Euphorbia 31; Eysenhardtia orthocarpa 27; Galphimia Humboldtiana 25; Guilleminea 34; Ipomœa 31, 34; Indigofera 36; Jatropha multifida 25; Lobelia 30; Medicago denticulata 24; M. lupulina 24; Melampodium 32; Mirabilis Montanoa 36; Muhlenbergia 23; Nissolia confertiflora 27; Oxalis 33; Panicum bulbosum 29; P. halciforme 29; Pentstemon campanulatus 33; Phaseolus 25; Phyllanthus Galeottianus 35; plum 141; Polygonum aviculare 141; Prunus serotina 31; Rhus Toxicodendron 24; Rosa 34; Salvia glechomæfolia 33; Setaria Grisebachii 29; S. imberbis 29; Sida 31; Solanum appendiculatum 24; Tagetes tenuifolia 27; Tecoma stans 30; Tithonia cubiflora 32; T. tagetiflora 32; Tripsacum dactyloides 28, 37; Triumfetta semitriloba 31; Viguiera excelsa 31; V. helianthoides 31; V. picta 31; Zexmenia ceanothifolia 26; Z. podocephala 26; Zornia 37.

Hough, W., personal 141
Houstonia, Greenman on 136
Howell's "Flora of N. W. America" 126
Howe, M. A., work of 136
Humphrey, J. E., death of 140; personal 180; sketch of 387
Hunkel, C. G., work of 143, 190
Hyacinth, bacterium 188
Hydrocotyle, Bonariensis 434; Chinensis 47; lineata 47
Hygrometer, Erodium 372
Hypericum, galioides 445; lobocarpum 445
Hyphæ, movement of protoplasm 181
Hypnum, adnatum 254, 255; adnatus 254; Bergenense 242; chrysophyllum

242; compactum 262; conferva 249;

confervoides 245, 247, 249, 250; con-

textum 257; debile 265; fallax 271;

filicinum fallax 271; fluviatile 268, 271, 272, 275; irriguum 268; irriguum spinifolium 272; irriguum fluviatile 275; jungermanioides 249; Juratzkæ 260; Juratzkanum 260; Lescurii 278; longifolium 284; minimum minutissimum 245, 250; noterophilum 272; orthocladon 265, 266, 275; palustre fluviatile 275; polygamum 282; porphyrrhizum 266; radicale 265. 266; riparium 280; riparium abbreviatum 283; riparium flaccidum 383; riparium fluitans 284; riparium longifolium 284; serpens 257, 258; serpens compactum 263; serpens subtilis 252; serpens varium 265; spinulosum 257; Sprucei 247; stereodon confervoides 250; subtile 252; vacillans 287; varium 265, 266; varius 265 Hypocrea fibula 37

Hypoderma of Abies 341

Ι

Ilex ambigua 377; Amelanchier 276;
Beadlei 377; lævigatus 376; lanceolatus 376
Ipomæa 31, 34
Index Kewensis 305
Indigofera 36
Inflorescence, anomalous 427
Insects and flowers: see Flowers and insects.
Iris florentina, cultivation of 451
Ishıkawa, C., work of 385
Ithyphallus impudicus 75, 80

T

Jaborandi, leaf structure 139

Jack, J. G., personal 224 Jamaica, public gardens 345 Jamesia, Heller on 445 Jatropha multifida 25 Jeliffe, S. E., work of 448 Johow, F., work of 134 Jones, H. L., personal 139 Jones (L. R.) and Orton (W. A.), work of 68 Jordan, E. O. 379, 439 Journal of Applied Microscopy 452 Jouvea, Ogden on 137 Juel, H. O., work of 217 Juglans cinerea 430; nigra 431 Juncoides nivale 423 Jussiæa suffruticosa 434 Justicia aurea 138

## K

Kansas Agric. College, botanical department 140
Kattein, A., work of 445
Kihlman, A. O., personal 449
King, F. H. 118
Klatt, F. W., biography of 440
Klöcker and Schiönning, work of 64
Knowlton, F. H., personal 141
Kny's wall charts 449
Koehne, E., work of 445
Kew gardens, index 305; mycology of 306
Kobl, F. G., work of 446
Kolkwitz, R., work of, 300
Kozlowski, W. M. 39
Kræmer, Henry, personal 72

# L Laboratory, subtropical 387; tables, ebon-

ized 66

Lutz, M. L. 54

Labrador, plants of 418

Lactophenol, Amann on 300

Lamson, H. H., work of 67 Lamson-Scribner: see Scribner Langdon, Fannie E., work of 143, 189 Lathyrus maritimus Aleuticus 420 Leaves, abnormal 293 Leguminosæ, seeds wanted 139 Leiberg, J. B., work of 136 Leiophyllum prostratum 377 Lepidium apetalum 181, 209, 299 Lemnaceæ, Thompson on 440 Leskea confervoides 250; Sprucei 247; subtilis 252; varia 265 Leucobryum, nomenclature of 133 Liabum, Greenman on 136 Light, and movement of diatoms 43; Kohl on photosyntactic energy of 446 Liquidambar 142 Lilæopsis, Carolinensis 48; lineata 47; occidentalis 48; revision of 47; Schaffneriana 48 Lilium Martagon, Purdy on 445; Sargant on 221. Lindau, G., personal 140; work of 138 Lloyd's "Photogravures of Am. Fungi" 71, 305 Lobelia 30 Loew, O. 305 Lotsy, J. P., work of 300 Loranthaceæ, Urban on 137 Louisiana Society of Naturalists 224 Low, Dr., personal 72 Luehea meiantha 394 Lupinus albus, enzyme from 190

Luzula arctica 423 Lycopus sinuatus 431 Lythraceæ, Koehne on 445

140, 180, 185

## M MacDougal, D. T. 110; personal 139,

MacMillan, C., "Notes for teachers on geographical distribution of plants" 60; personal 139 Macoun's "Plants of Labrador" 61 Maine plants, Fernald on 136 Malme, G. O. A., work of 221 Malpighia, dasycarpa 390; edulis 391; Mexicana 391; parvifolia 391 Malus communis, amygdalin and emulsin in seeds 54 Maple, variation in leaf arrangement 370 Marshallia angustifolia Cyananthera 435 Marsilia Drummondii, parthenogenesis in McClatchie's "Seedless plants of S. Calif." 62 Medicago denticulata 24; lupulina 24 Medicinal plants 142 Meehan's "Life histories of plants" 127 Megaskepasma, Lindau on 138 Melampodium 32 Melampyrum pratense 188 Mentha Canadensis 431 Merrell, W. D. 383 Meristem, Montemartini on physiology of Mespilus Germanica 55 Mexico, flowers and insects of 104; fungi Microscopical preparations of Russow Microscopy, Journal of applied 452 Microtropis, discolor 393; occidentalis Migula's "System der Bakterien" 379 Millspaugh, C. F., personal 142 Minnesota Botanical Studies 132 Mirabilis 37 Mohr, Chas., personal 142 Molds, Jeliffe on 448 Molisch, H., personal 305; "Unters. über das Erfrieren der Pflanzen" 437 Montana, Rydberg on new plants of 135 Montanoa 36 Montemartini, L., work of 301 Morgan, A. P. 56 Morley's "Familiar flowers" 124 Mosses, ecology of 69; lactophenol for restoring 300; Müller on Jamaican 137; Russow's collections 308

Mottier, D. M., work of 217
Movements, Stahl on 445
Mucilago, alba 56; crustacea 56; crustacea alba 56; filamentosa ramosa 56; spongiosa, synonomy of 56
Mucor, crustaceus, etc. 56; Mucedo,

Chodat on temperature relations 300; spongiosus 56

Mucoraceæ, movement of protoplasm 181

Mucorineæ 1

Muhlenbergia 23

Müller, C., work of 137; Ferdinand von 139; Fritz, death of 71

Museum, preserving green color of plants 206

Mushrooms, Peck on 64; Peck's plates of 450

Mutinus caninus 73, 77

## N

Nash, G. V., work of 136 Naturalist, American 140 Nebraska, botanical survey of 143, 187; trees on plains 188; vegetation of foothills 189; work on phytogeography of 141 Neckera tenuis 252 Necrology: Douglas, Robert 71; Humphrey, J. E. 140, 387; Müller, Fritz 71; Russow, Edmund 72; Steenstrup, J. 224; Straub, F. C. 72; Trevisan, Victor 71. Neslia paniculata 141, 299 Nevada, Hillman on indigenous grasses of 298 Newcombe, F. C. 437; personal 180; work of 143, 190 Niger, work of 137 Nissolia confertiflora 27 Nomenclature 378; Berlin rules of 107; Greene on 137; of Leucobryum 133 Norantea subsessilis 390 Norton, J. B. S., work of 142

## C

Nucleus, division of 217, 221; Townsend

on function of 384

Œdema in roots of Salix nigra 52 Œnotheraceæ, Parmentier on 130 Ogden, E. L., work of 137 Oil, birch 449; cedar 449; peppermint 449 Oltmanns, F., work of 383 Opuntia fragilis 141 Oranges, soft spot of 103 Orchard and garden diseases 68
Oregon, Coville and Leiberg on new plants of 136
Orophochilus, Lindau on 138
Orris, cultivation of 451
Osborn, H. F., work of 143, 189
Osterhout, W. J. V., work of 217
Oxalis 33
Oxygen, Ewart on evolution by bacteria 446
Oxytria, Pollard on 221
Oxytropis, Greene on 445

## Р

Pammel, L. H., "Grasses and forage plants of Iowa, Neb., and Col." 448; work of 68

Panicum, bulbosum 29; halciforme 29; Nash on 136

Parmentier, P., work of 130

Parodiella perisporoides 37

Parthenogenesis in Marsilia 114

Pax, F., work of 137

Peach, blight 65; rot 65, 68; winter killing prevented 447

Peary, plants collected on voyage 417

Peck, C. H., work of 64

Peirce, G. J. 370

Penhallow D. P., work of 183

Penhallow, D. P., work of 183
Penicillium, digitatum 104; glaucum
103

Pentstemon campanulatus 33 Peppermint oil, production of 449 Personals, Arthur, J. C. 140, 179; Atkinson, G. F. 143, 187; Barnes, C. R. 140, 179; Bastin, E. S. 139; Bennett, A. W. 305; Beal, W. J. 141; Belajeff, W. 449; Bessey, C. E. 141, 143, 181; Bray, W. L. 224; Britton, N. L. 140, 179; Britton, Mrs. N. L. 141; Campbell, D. H. 140, 185; Clements, F. E. 141; Coville, F. V. 140, 142, 179; Cummings, Clara E. 141; Davis, B. M. 143, 180; Davis, J. J. 141; Dawson, J. 180; Detmer, W. 305; Engler, A. 140; Evans, A. W. 141; Farlow, W. G. 139; Faxon, C. E. 139; Fischer, E. 71; Foster, E. 224; Halsted, B. D. 387; Havard, V. 142; Hollick, A. 140, 179; Hough, W. 141; Humphrey, J. E. 180; Jack, J. 224; Jones, H. L. 139; Kihlman, A. O. 449; Knowlton, F. H. 141; Kraemer, Henry 72; Lindau, G. 140; Loew, O. 305; Low, Dr. 72; MacDougal, D. T. 139, 140, 180, 185; MacMillan, C. 139; Millspaugh, C. F. 142; Mohr, Chas. 142;

Podostigma, Greene on 445

Pollard, C. L. 141; work of 221

Personals: Molisch, H. 305; Mueller, F. von 139; Newcombe, F. C. 180; Pollard, C. L. 141; Porcher, F. P. 139; Pound, Roscoe 141; Robinson, B. L. 140, 179; Rose, J. N. 181, 307; Rothert, W. 305; Rusby, H. H. 71, 142; Russell, H. L. 181; Schneider, Dr. A. 71; Selby, A. D. 141; Seymour, A. B. 139; Smith, Anna A. 139, 449; Smith, E. F. 139; Spalding, V. M. 141; Stoneman, Bertha 71; Swingle, W. T. 181; Tilden, Josephine E. 141; Tracy, S. M. 71; True, R. H. 71, 141; Uline, E. B. 449; Underwood, L. M. 71; Vries, H. de 139, 305; Waldron, C. B. 139; Walter, Thomas 139; Ward, L. F. 305; Ward, H. M. 143; Wheeler, C. F. 141; Wilson, W. P. 142; Woods, A. F. 141; Woolen, W. W. 143; Zahlbruckner, A. 71. Peters, C. A., work of 143, 188 Pezizineæ, 143, 187 Phæophyceæ, Oltmanns on 383 Phalloideæ, physiology of 73 Phallus, caninus 74; impudicus 74 Phaseolus 25 Phenols, toxic action of 190 Phormidium, laminosum 198; subcorticum 34 Phycomyces nitens 192 Phyllanthus Galeottianus 35 Phyllocactus, Schumann on 137 Phyllotaxy, of maple 370 Phylogeny of angiosperms 145 Physalis, inflorescence 428 Physalospora Araliæ 37

Physiology 213; of receptaculum of Phalloideæ 73 Picea, revision of, in N. E. Am. 183 Pigments of fungi and bacteria 192 Pignuts, distribution of 387 Pilocarpus, leaf structure 139 Pinus Banksiana 298 Piperaceæ, DeCandolle on 138 Piper, C. V., work of 445 Piptocephalis Freseniana 2 Pirus communis 55 Plant World 141, 451 Plasmodia, literature of the movement of Plasmopara Cubensis 68 Platydictya Sprucei 247 Plectritis, Suksdorf on 136

Plum 141; insects visiting flowers 106;

Poa flexuosa 422 Podosordaria 37; Mexicana 37

leaf spot 68

Pollen 181; of Allium 385; of Asclepias 189; mother cells 217; tube of Ginkgo 225 Pollock, J. B., work of 143, 189 Polygalaceæ, Malme on 221 Polygonum aviculare 141; inflorescence Pomaceæ, cyanhydric acid in 54 Populus, balsamifera 299; Fremontii, abnormal 293 Porcher, F. P. 139 Potato, blight 67; scab 66, 67, 68; soil rot of sweet 67 Potentilla, emarginata 425; nivea pinnatifida 424 Potometer, a convenient 110 Poulton, E. B., work of 143, 189 Pound, Roscoe 141; and Clements's "Rearrangement of N. Am. Hyphomycetes" 129 Prinos dubius 377; lanceolatus 376 Prolification, axial 181, 209 Protoplasm, movement in coenocytic hyphæ 181 Prunes, Hedrick on fungous diseases of 298 Prunus serotina 31 Psilanthele, Lindau on 138 Pteridophytes, Urban on 137 Puccinia, Amphilophii 30; Apocyni 33; appendiculata 30; Arechavaleta 31; Asparagi, Sturgis on 66; atra 29; Baccharidis 30; Bidentis 32; Calochorti 31; Cenchri 28; cinnamomea 29; Conoclinii 31; coronata 28; Daleæ 27; Elytrariæ 31; emaculata 29; Enceliæ 32; Esclavensis 29; Euphorbiæ 31; Eysenhardtiæ 27; granulispora 33; Guillemineæ Helianthi 32; heterospora 31; Impomœae-panduranæ 31; lateritia 31; Lobeliæ 30; medusæoides 30; **Melam**podii 32; Mexicana 33; nigrescens 33; nigrovelata 29; Nissoliæ 27; opaca 26; ornata 30; oxalidis 33; Pentstemonis 33; pinguis 34; Prunispinosæ 31; salviicola 33; Setariae 28; subnitens 28; tageticola 26,; Tanaceti, Stone on 66; Tithoniæ 31; Tripsaci 27; Triumfettæ 30; vacua 30; versicolor 28; vexans 28; Viguieræ 31; Zexmeniæ 26

Pucciniosira Brickelliæ 34

Pyrenoids, Chmilewskij on 67

Purdy, C., work of 445

Pyrus: see Pirus

## Q

Quamassia, Coville 136 Quercus, digitata pagodæfolia 375; falcata pagodæfolia 375; pagodæfolia 375; Small on 445; Texana 376

## R

Rabinowitsch's "Tuberkel-bacillus im Marktbutter" 442
Randolph's "Laboratory directions in general biology" 441
Ranunculaceæ, Greene on 137
Ravenelia, appendiculata 35; Brongniartiæ 35; epiphylla 36; expansa 35; glanduliformis 36; Indigoferæ 36; lævis 35
Receptaculum of Phalloideæ 73
Resin canals of Abies 342
Reticularia, alba 56; ovata 56

Reviews: Atkinson's "Studies and illustrations of mushrooms " 448; Bailey's (W. W.) "New England Wild flowers" 128; Bailey's (L. H.) "Principles of fruit growing " 123; Bastin & Trimble's "N. Am. Coniferæ" 440; Blatchley's "Phanerogams new or rare in Indiana" 443, and "Plants of Vigo County, Ind." 128; Britton & Brown's "Illustrated flora of U.S." 120; Brunnthaler's "Exchange list" 61; Cardot's "Mosses of the Azores" 61; Chapman's "Flora of Southern U.S." 123; Chipman's "Flora of lake region of N. E. Indiana" 442; Claassen's "List of Uredineæ of N. Ohio" 60; Cockerell's "Food plants of scale insects" 220; Coulter's (S.) "Compositae of Indiana" 443; Coville's "Plants used by Klamath Indians" Cunningham's "Effects of drought" 444, and "Revision of U.S. "Fungi of Wisconsin" 296; Dean's
"Dahlia" 61; Dodge's "Catalogue
of fiber plants" 297; Duggar's "Bacterial disease of squashbug" 62;
Durand & Pittier's "Primitiae Florae Costaricensis" 127; Engler & Prantl's "Natürl. Pflanzenfamilien, parts 155-163"440; Fernald's "Contrib. from Gray Herbarium "441; Fischer's (R.) "Reagents and reactions" 62; Fischer's (A.) "Vorlesungen über Bakterien" 439; Fritsch's "Excursions flora für (Esterreich" 126; Golden's "Are yeasts pathogenic" 443; Gray's "Synop-

tical Flora of N. Am." 121; Greene's "Flora Franciscana" 220; Grout's "Isotheciaceæ and Brachythecia" 382; Gürke's "Plantæ Europææ" 122; Hessler's "Flora of lakes Cicott and Maxinkuckee" 442; Howell's "Flora of N. W. America" 126; Lloyd's "Photogravures of Am. Fungi" 71, 305; MacMillan's "Notes for teachers on geographical distribution of plants" 60; Macoun's "Plants of Labrador" 61; McClatchie's "Seedless plants of S. Calif." 62; Meehan's "Life history of plants" 27; Migula's "System der Bakterien " 379; Molisch's "Unters. über das Erfrieren der Pflanzen " 437; Morley's "Familiar flowers" 124; Pound & Clements's "Rearrangement of N. Am. Hyphomycetes " 129; Pammel's "Grasses and forage plants of Iowa, Neb., and Col." 448; Rabinowitsch's "Tuberkel-bacillus im Marktbutter "442; Randolph's "Laboratory directions in general biology' 441; Roberts' "Fertility of the land" 118; Robinson's "Gray's Synoptical Flora" 121; Röll's "Mosses collected in the U.S. in 1888" 60; Rose's "Studies of Mexican and Central Am. plants" 296; Sargent's "Ranunculaceæ " 439; Schimmel & Co's "Semiannual report" 60; Schinz's "Biography of Klatt" 440; Schneider's "Leaves of jaborandi" 60; Schröter's "Kryptogamen-flora von Schliesen" 383; Scribner's "American grasses" 125; Setchell's "Laboratory practice" 215; Stone's "Physiology in Agric. Colleges" 381; Strasburger et al. "Cytologische Studien" 216; Sydow's "Index to Sylloge Fungorum" 379; Thomas "Periodicity of root pressure" 443; Thompson's "W. Am. Lemnacee" 440; Trelease's "Botanical observations in the Azores " 296; Underwood's "Suggestions to collectors of fleshy fungi" 128; Underwood & Earle's "Fungi of Alabama" 65; Warburg's "Die Muskatuss" 63; Webber's "Water hyacinth" 61. Rhacodiscus, Lindau on 138

Rhombochlamys, Lindau on 138
Rhus aromatica mollis 377; Canadensis mollis 377; Toxicodendron 24
Robert's "Fertility of the land" 118
Robinson, B. L. 107, 209; "Gray's Synoptical Flora" 121; personal 140, 179; work of 181, 436

Robinsonella, Rose & Baker on 137 Rolfs, P. H., work of 447 Röll's "Mosses collected in U.S. in 1888 " 6o Root, Kattein on vascular bundles of 445; mechanism of curvature 189; ædema of Salix 52 Rosa 34 Rose, J. N. 47; personal 181, 307; "Studies of Mexican and Central Am. plants" 296; work of 137 Roses of Wisconsin 189 Rot, black, of tomatoes 298; Chester on peach 65 Rothert, W. personal 305 Rowlee, W. W. 417; work of 144, 192 Rubiaceæ, Schumann on 137 Rubus, Piper on 445 Rumex, crispus 299; inflorescence of 431 Rusby, H. H., personal 71, 142, 181 Russell, H. L. 442, 446; personal 181 Russow, collections of 307; death of 72 Ruyschia subsessilis 390 Rydberg, P. A., work of 135 Rynchospora fusca 433

Saccharomyces, Klöcker and Schiönning on origin 64 Salix, artica diplodictya 419; Grænlandica 417, 423; Grænlandica leiocarpa 423; nigra, ædema of roots 52; Uva-Ursi 419 Salsola Kali Tragus 299 Salts, relation to turgor 399 Salvia glechomæfolia 33 Sambucus Canadensis 430; Mexicana, insects visiting 106 Saponaria Vaccaria 299 Sargant, Ethel, work of 221 Sargent's, F. LeR., "Ranunculacea " 439 Sargent, C. S., work of 137 Schaffner, J. H. 93 Schimmel & Co's "Semi-annual report" Schinz's "Biography of Klatt" 440 Schizothrix calcicola 194, 197 Schlotterbeck, J. O., work of 143, 188 Schneider, Dr. A., "Leaves of jaborandi" 60; personal 71; work of 139 Schrenk, H. von 52; work of 142 Schröter's "Kryptogamen flora von Schliesen " 383 Schuette, J. H., work of 143, 189 Schumann, K., work of 137 Scribner, F. L., "American grasses" 125; work of 136

Seeds, cyanhydric acid in 54; development of coats 88; Hitchcock and Clothier on weed 297 Selby, A. D., personal 141; work of 68 Setaria, Grisebachii 29; imberbis 29 Setchell's "Laboratory practice" 215 Seymour, A. B., personal 139 Shaw, W. R. 114, 372 Shull, G. H. 427 Sida 31 Sievers, F. W., work of 135 Sieve tubes, Czapek on function 64 Silene Cucubalus 299 Siphonoglossa Pringlei 138 Sisymbrium altissimum 299; canescens, insects visiting 106 Small, J. K., work of 135, 136, 445 Smilax auriculata 375; lanceolata 375; laurifolia bupleurifolia 375 Smith, Anna A., personal 139; 449 Smith, E. F., personal 139; work of 144, 188, 192 Smith, John Donnell 389 Smith, R. E. 103; work of 66 Smith, W. R. 385 Smuts 68 Solanum appendiculatum 24; elæagnifolium 434; abnormal leaves 293; nigrum Sorbus Aria and Aucuparia, amygdalin and emulsin in seeds 55 Sordaria 37 Spalding, V. M., personal 141 Species, describing new 58 Spermatogensis in Allium 385 Spermatozoids, Belajeff on development 302; literature of movement 300 Sphærocystis, Chodat on 138 Sphærostilbe coccophila, Rolfs on 447 Sphagna, Russow's collections of 308 Spiesia, Greene on 445 Spilanthes stolonifera 435 Spores of Mucor and cold 300 Spumaria alba 56; cornuta 56; mucilago 56 Stahl, E., work of 445 Stamens of Typha, development of 93 Starch, time and iodine test 301 Steenstrup, J., 224 Stereodon compactus 262; riparium 280; varius 265 Stewart, F. C., work of 68, 298 Stichoglea, Chodat on 138 Stomata on bud scales of Abies 294, 341 Stone, G. E., "Physiology in Agric. Colleges" 381; work of 66

Scrophulariaceæ, Diels and Engler on

Stone, W. E., work of 301 Stoneman, Bertha, personal 71 Strasburger, E., et. al. "Cytologische Studien" 216; work of 219 Straub, F. C., death of 72 Strawberry, bacterial disease 66 Streptanthus, Greene on 445 Streptotrachelus, Greenman on 136 Suksdorf, W. N., work of 136 Sturgis, W. C., work of 66 Stypocaulon, cytology 218 Swingle, W. T., personal 181; work of Sydow's "Index to Sylloge Fungorum" Synapsis 221 Syncephalastrum 1, 3; racemosum 3 Synechococcus æruginosus 194, 198 Syncephalis cordata 5, 8, 9; cornu 5, 9; depressa 5; fusiger 9; nodosa 5, 8, 9; pycnosperma 7, 9, 11; reflexa 10; sphærica 2; tenuis 7, 12; Wynneæ 8, 1 I

## Т

Tabernæmontana **Alfari** 396; citrifolia Donnellsmithii Costaricensis 397, longipes 397 Tagetes tenuifolia 27 Tannins, literature of oak bark 301 Taxodium distichum 142 Taxonomy 135, 145, 220, 445 Tecoma stans 30 Teratology 181, 209, 293, 370; DeCandolle of 131 Tetramerium aureum 138 Thaxter, R. 1, 129 Thuya occidentalis 299 Thlaspi arvense 299 Thom, Chas. 373 Thomas's "Periodicity of root pressure" Thompson's "N. Am. Lemnaceæ" 440 Tilden, Josephine E. 194; personal I4I Tilia Americana 428 Tithonia cubiflora 32; tagetiflora 32 Tobacco, Sturgis on disease 66 Tomatoes, Stewart on black rot of 298; Stone on mildew 66 Tornado, effects of St. Louis 142 Toumey, J. W., work of 68, 298 Townsend, C. O., work of 144, 191, Tracy, S. M., personal 71 Tradescantia, Small on 136 Transfusion tissue of Abies 341

Transpiration, measurement of 110, 372; and movements, Stahl on 446
Trees, effects of tornado on 142
Trelease's "Botanical observations in the Azores" 296; work of 306
Trevisan, Victor, death of 71
Trifolium, Greene on 445
Trillium grandiflorum 143, 187; Small on 135
Tripsacum dactyloides 28, 37
Triumfetta semitiiloba 31
True, R. H., personal 71, 141; work of 143, 190
Turgor, relation of nutrient salts to 399
Typha latifolia, development of stamens and carpels 93

## U

Uline, E. B., 63; personal 449

Ulmus Americana 142; campestris 142
Underwood, L. M., and Earle's "Fungi
of Alabama" 65; personal 71; "Suggestions to collectors of fleshy fungi"
128
Urban, I., work of 137
Uredineæ, Dietel and Niger on 137
Uredo pallida 37
Uromyces Ægopogonis 25; brevipes 24;
Caladii 24; Epicampus 23; Euphorbiæ 23, 51; Galphimiæ 25; globosus
23; Jatrophæ 25; Mexicanus 24;
obscurus 24; Peckianus 23; Phaseoli
25; Solani 24; striatus 24; tenuistipes 25; terebinthi 24
Uropyxis 27

## V

Vaccinium **Poasanum** 395
Vail, A. M., work of 136
Valerianella **cilosa** 136
Verbascum Thapsus 430
Veronica alpina 426
Viburnum 34; Demetrionis 436
Viguiera excelsa 31; helianthoides 31, 34; picta 31
Violets, Pollard on 221
Vries, H. de. personal 139, 305

## W

Waldron, C. B., personal 139 Walter, Thomas, personal 139 Warburg's "Die Muskatnuss" 63 Ward, H. M., personal 143 Ward, I., F., personal 305 Water, Davenport on rôle of in growth 132 Webber, H. J., 16, 225, 302; "water hyacinth" 61; work of 185 Weeds, of Arizona 68, 298; cruciferous 68, 141; Fletcher on Canadian 299 Wheeler, C. F., personal 141 Whipple, G. C., work of 64 Whitten, J. C., work of 447 Wiegand, K. M., 49, 417; work of 143, 144, 187, 220

Williams, F. N., work of 138 Wilson, W. P., personal 142 Wisconsin, roses of 189 Wittmack, L., work of 301

Woods, A. F., personal 141; work of 143, 187, 200, 206 Woolen, W. W., personal 143 Wortmann, J., work of 66

Wood, ebonizing 66

Wyman's "Oaks" 441

X

Xanthoxylum, see Zanthoxylum Xyridaceæ, Malme on 221

Yeast, ancient use of 301

Zahlbruckner, A., personal 71 Zamia, Webber on 16, 185, 225 Zanthoxylum ferrugineum 391 Zenobia speciosa pulverulenta 375 Zephyranthes, Greene on 137 Zexmenia ceanothifolia 26; podocephala

Zoospores, literature of movement 300; Oltmanns on 383 Zornia 37 Zygomycetes, new or peculiar 1